

REMARKS

The Office examined claims 1-20 and rejected claims 1, 4-12 and 15-20. With this paper, some of the claims are amended, none are canceled, and no new claims are added, so that claims 1-20 remain in the application.

Objections to the claims

At section 1 of the Office action, claims 18 and 20 are objected to for informalities. With this paper, claims 18 and 20 are changed in a way believed to obviate the grounds for the objections.

Rejections under 35 USC §103

At section 3 of the Office action, claims 1-3, 18-22 and 25-26 are rejected under 35 USC §103 as being unpatentable over U.S. Pat. No. 6,816,471 to Ludwig et al. in view of U.S. Pat. No. 6,490,251 to Yin et al.

The independent claims are 1 and 21.

Regarding the independent claims, the Office action cites col. 8, ll. 8-32 of Ludwig (et al.) as disclosing a step of local acknowledgement in which the radio layer sends a local acknowledgement to the upper layer on the occurrence of a predetermined event. The Office action asserts that: "The reference discloses link reset corresponds to predetermined event and providing information to L3 layer corresponds to claimed step of sending local acknowledgement."

Applicant respectfully submits that Ludwig discloses at the cited location only that the L2 layer must always keep track of which L3 data units are included in which L2 data units. There is no teaching of the L2 layer (asserted by the Office action to correspond to the recited radio layer) sending a local

acknowledgement to the upper layer on the occurrence of a predetermined event. Ludwig considers the case of a link reset, i.e. the resetting of the data unit numbering without a handover, so that the sending and receiving peers remain the same but the numbering of the I-mode data units is reset, e.g. due to a given error condition. Ludwig explains (col. 8, ll. 21-25) that:

In this case, the sending peer will simply renumber the L2\_ARQ data units in its send buffer in such a way that the first L2\_ARQ data unit of the new sequence is the first L2\_ARQ data unit associated with the last L3 data unit that was not completely acknowledged.

Thus, there is no communication from the lower/ L2/ radio layer to the upper layer in this case, which makes sense because the upper layer does not need to keep track of which L3 data units are included in which L2 data units.

The Office action concedes that "Ludwig fails to disclose a step of slow release in which [the] upper layer removes from the buffer maintained by the upper layer the oldest packet in the buffer when the buffer is full and a new packet arrives, and does so independently of whether the oldest packet has been acknowledged by the radio layer of the terminal." For such disclosure, the Office action relies on Yin (et al.), citing col. 8, ll. 14-20. The Office action argues that "One in ordinary skill in art would have been motivated to do this [alter the teachings of Ludwig per the teachings of Yin to include the step of slow release] to provide a congestion control mechanism in network."

Applicant respectfully submits that the buffer referred to at the cited location is maintained by the edge device 115 (Fig. 1), not by an upper layer of equipment implementing a radio layer (12) and an upper layer (14) of a layered protocol of a radio access network, as recited in the claims. The edge device 115 is exemplary of what is disclosed by Yin as a device communicating

congestion control information between dissimilar networks, such as a TCP/IP network and an ATM network. At the cited location, the edge device is in particular an edge device as in Fig. 3, i.e. coupled to the TCP/IP network. Further, at the cited location, Yin discloses discarding a packet from a buffer not because the buffer of an upper layer of the edge device or the TCP/IP network is full, but because of some indication of congestion of the ATM network. Further still, the Office action argues that it is proper to combine the teachings of Yin with the teachings of Ludwig "to provide a congestion control mechanism ...," and applicant respectfully submits that the combination is one made in hindsight, i.e. in view of the elements included in the independent claims, and not because of any "suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings," as required by MPEP at 706.02(j). Yin does teach a mechanism for congestion control, but one of use in case of heterogeneous networks (i.e. e.g. a TCP/IP network communication with an ATM network). Ludwig is not concerned with such networks.

Most importantly, though, the site in Yin (col. 8, ll. 14-20) discloses deleting packets from a buffer not maintained by the upper layer of equipment implementing a radio access (or even some other network), but instead by an edge device, which are e.g. switches (col. 2, line 45). See col. 5, line 31-34, which explains that Fig. 3 illustrates components 320--called an ATM segmentation/ transmitter--of the edge device 115 shown in Fig. 1, which interfaces a TCP/IP network with an ATM network. Fig. 4, at col. 5, ll. 64-65 and col. 6, ll. 3-4, is said to describe the operation of the ATM segmentation/ transmitter 320, which includes a packet discard decision block 430. Fig. 5, at col. 6, ll. 31-34 is said to describe the packet discard decision block

430, which executes a so-called "static threshold algorithm" (col. 6, line 36). The site in Yin referred to in the Office action (col. 8, ll. 8-32) is part of the description of the static threshold algorithm.

Thus, even if it is fair to combine the teachings of Yin with those of Ludwig, the combined teachings do not include having an upper layer discard a packet when a buffer it maintains is full.

In view of the shortcomings of Ludwig in respect to the local acknowledgment, and of Yin and Ludwig in respect to the upper layer discarding a packet from a buffer it maintains, since such limitations are included in both of the (only) independent claims of the case, applicant respectfully requests that the rejections under 35 USC §103 be reconsidered and withdrawn.

Conclusion

For all the foregoing reasons it is believed that all of the claims of the application are in condition for allowance and their passage to issue is earnestly solicited. Applicant's attorney urges the Examiner to call to discuss the present response if anything in the present response is unclear or unpersuasive.

Respectfully submitted,

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Date

WARE, FRESSOLA, VAN DER SLUYS  
& ADOLPHSON LLP  
755 Main Street, P.O. Box 224  
Monroe, CT 06468-0224

  
James A. Retter  
Registration No. 41,266

tel: (203) 261-1234  
Cust. No.: 004955